1. A method for making acetylene derivatives of phenathrolines comprising reacting a 3,8 brominated phenanthroline with an aromatic acetylene.

5

2. The method of claim 1 wherein said 3,8 brominated phenathroline further comprises a transition metal atom.

3. The method of claim 1 wherein said 3,8 brominated phenathroline further comprises a chelated transition metal atom.

A compound having the formula comprising:

10

wherein Z is alkyl, substituted alkyl, aromatic or substituted aromatic group.

5. A compound according to claim 5 having the formula comprising

wherein

M is a transition metal ion; and

X and  $X_1$  are co-ligands.

5

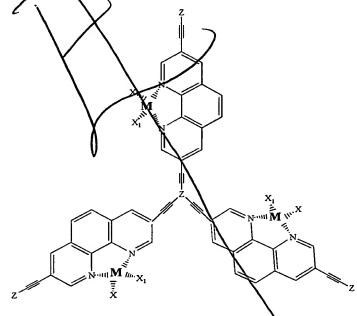
A compound according to claim 4 which is a polymer having the formula:

wherein

M is a transition metal ion and

X and  $X_1$  are co-ligands.

7. A compound according to claim 6 having the formula:



- 8. A compound according to claim 4 wherein Z comprises the base of a nucleoside.
- 9. A compound according to claim 4 wherein Z comprises the base of a nucleotide.
- 10. A compound according to claim 4 wherein Z comprises the phosphoramidite form of the nucleotide.

v00002

Add 357

 $\frac{1}{3}$  add  $\frac{1}{3}$